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Editorial

The Federal Child Labor Program: What Is the Present Situation?

"If it was the deliberate intention of Congress to wreck an established program for children, which has had bipartisan support for years and which never had a war-inflated appropriation to be deflated, it has succeeded only too well."

These words from a statement by the National Child Labor Committee indicate something of the seriousness of the present child labor situation following the appropriation slashes made by the 1947 Congress.

American youth education and a sound child labor program are bound up together. It is no wonder, therefore, that educational leaders and all workers with youth are deeply concerned over recent Congressional action and anxious to know whether something constructive can be produced in the new session to repair the damage which has been done.

Just what did the Congressional action this year do? As a result of reductions and transfers, the National Child Labor Committee finds, the Federal child labor program, built up first as the Industrial Division of the Children's Bureau and kept intact as the Child Labor and Youth Employment Branch of the Division of Labor Stardards when the other functions of the Bureau were transferred to the Federal Security Agency, has ceased to exist as a unit and the functions have been curtailed and dispersed.

The personnel previously engaged in enforcement of the child labor provisions of the Wage-Hour Act have been reduced from 21 to 7. Four of the 7 are professional workers and this staff has been merged with the Field Operations Branch in the Washington office of the Wage-Hour Division. All of the 9 child labor specialists formerly attached to the Regional Wage-Hour offices have been eliminated.

In its analysis the National Child Labor Committee further points out that other child labor "functions under the Fair Labor Standards Act," transferred by Congressional action to the Wage-Hour Division, have been set up for one year by order of the Secretary as a Child Labor Branch. Under the reduced appropriation the Branch has a staff of 12 professional workers and 9 clerical

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workers in the general program of the Child Labor and Youth Employment Branch this past year. Under the sharp curtailment of funds and staff, it has been necessary to limit the child labor work to an age certification program, research involving matters related directly to the child labor provisions of the Wage-Hour Act, and the statistical, informational, and public relations work. The 7 regional consultants, who were the backbone of the advisory and promotional work on state child labor standards, no longer exist, and the Child Labor Branch in the Wage-Hour Division can do no work in this area, since no provision was made for it in the appropriation.

School people and others who have fought for years for a Federal program to protect young workers know that enforcement of the child labor provisions of the Fair Labor Standards Act is not enough. They know, as the National Child Labor Committee says, that Federal service to the states in improving state child labor standards is essential to progress in securing adequate laws; they know that research, advisory and promotional services on agricultural problems involving child workers are important to the welfare of this seriously disadvantaged group; they know that general research into child labor and youth employment problems is a continuing need for the welfare of all young workers. "All of these services are gone as a result of Congressional action which eliminated them by cutting $183,253 from the budget and reducing the Federal child labor program to limited functions directly related to enforcement."

Certainly nothing in the postwar child labor situation justifies any reduction in enforcement provisions. The number of 14- and 15-year-old children at work, full or part-time, is still three times as great as in 1940, and the number of 16- and 17-year-olds is still twice as great. Many thousands of children are working illegally and many thousands more in violation of desirable standards. "When young workers are in such demand that nearly 2,000,000 boys and girls under 18 years of age are employed during the school year, and over 3,500,000 in midsummer, we cannot be complacent about the drop in child labor since the war," says the National Child Labor Committee. If our idea of "education for *all* American youth" is to become a reality, it must have a solid foundation of adequate and compulsory education laws, adequately enforced, plus secondary school programs adapted to the needs of individual students which will interest them in remaining in school beyond the compulsory school age.

Administering the Secondary School

In a graduate seminar this past summer staff members of schools from three Southern States undertook to put together in summary form what they could learn about present theory and practice in respect to administration of the secondary school.[1] Their report follows:

Who Are the Administrators?

ADMINISTRATION in the secondary school exists for the purpose of securing for youth the maximum benefits of the most desirable educational program that can be set up. It is concerned with all that takes place in the experience of young people. It seems to follow, therefore, that all who in any way contribute to the effectiveness of such a program are administrators in the broad sense of the word. Under a democratic conception, schools cannot consider administrative duties as belonging to any one person exclusively. Even though the principal may have special administrative training, there needs to be group planning and exchange of viewpoint. Great value may be derived from diversity of opinions and variety of thought.

A first step in providing a democratic school situation is to allow those who are to learn and those who are to teach democracy in its most wholesome application to practice it while they learn and teach. Although executive duties must be performed by an individual, there seems little reason to exclude any of the school personnel from the planning of educational policies, providing for health and safety, constructing curricula, giving consideration to budget needs, studying such items of personnel administration as retirement, sick leave, and assignment of teachers, building of suitable plants with proper heating, lighting, and ventilation and the proper selection of materials. Every group of personnel has administrative duties and can contribute to the success of the administrative program if given an opportunity to participate. Pupils,

[1] Members of the group were: Ralph A. Abernethy, Jr., South Fork School, Winston-Salem, N. C.; Earl Broome, Gastonia High School, Gastonia, N. C.; Mrs. W. C. Bynum, Winyah High School, Georgetown, S. C.; William M. Christensen, Central High School, Charlotte, N. C.; Nell Gould, Edgewood School, Fort Myers, Florida; Mrs. Margaret E. Gragg, Appalachian High School, Boone, N. C.; Harriett Starr Mason, Bennett School, Charleston, S. C.; Mrs. J. A. Mullins, Boone, N. C.; W. L. Rhyne, Salisbury, N. C.; Frances Strawhorn, Greenwood High School, Greenwood, S. C.; Mrs. Johnette O. Widerquist, Fort Myers, Florida; Samuel D. Wright, Principal, Sneads Grove Elementary School, Laurel Hill, N. C.

too, can make a worthwhile contribution. The duties of all who are a part of the school program are interrelated and every one has some administrative function.

Authorities on school administration, accordingly, list as part of the administrative personnel—in the sense that they not only share in administrative planning but also have actual administrative duties connected with the school—such persons as: superintendent, principal, assistant principal, heads of departments, coordinating guidance director, librarian, clerks, dean of girls, dean of boys, school stenographers, vocational guidance director, registrar, director of teaching, curriculum director, citizenship director, teachers, pupils, parents, dietitian, custodian.

Among the more important administrative functions are those having to do with curriculum, guidance, personnel and in-service training, library and materials center, health, physical education and athletics, student and school government, testing and evaluation, school plant and equipment, school finance, articulation of the secondary school with other parts of the school program, and public relations.

Curriculum

UNDER the definition now most generally accepted the curriculum consists of all the experiences the individual undergoes while in the jurisdiction of the school. Some of these experiences are organized, others are not. Secondary school administration is obliged to take into account both types of experiences. It must plan and organize the most valuable experiences that will help a youth fulfill his maximum capabilities, fit into the family and community social relationships, assume his share of civic and economic responsibility, while allowing for the fact that many experiences are incidental and cannot be definitely planned for.

In the past, experiences have been most commonly organized under the following subject listings:

Health and Physical Education.

Mathematics, which includes Arithmetic, General Mathematics, Business Mathematics, Algebra, Plane and Solid Geometry, Trigonometry.

English, which includes Oral and Written Composition, Literature, Dramatics, Public Speaking, Speech, Business English, Journalism.

Foreign Languages, Latin, French, German, Italian, etc.

Science, General Science, Biology, Zoology, Botany, Chemistry, Physics, Physical Science, Pre-Flight.

Social Science, World History, American History, Civics, Geography, Democracy, Economics, Sociology, Political Science.

Home Economics, Cooking, Sewing, Nutrition, Dietetics, Child Care, Interior Decorating.

Industrial Arts, Shop, Mechanical Drawing, Auto Mechanics, Welding, Practical Electricity, Metal Work.

Fine Arts, Art, Art Appreciation, Music, Music Appreciation, Band, Glee Club, Public School Music.

Commercial, Bookkeeping, Typing, Commercial Law, Stenography, Filing, Consumer Education.

Agriculture, Soil Chemistry, Farm Forestry, Conservation of Soil.

Vocational

Other experiences not usually considered a regular part of the course of study but offering enriched opportunities for the child are subject-matter clubs, student government, dramatic clubs, hobby clubs, school newspaper, school store, assembly programs, debating clubs and a host of other valuable activities.

Types of experiences designed to meet fundamental youth needs, however, would include:

1. Experiences in practicing health habits.
2. Experiences in practicing cooperation with others.
3. Experiences in practicing respect for the rights of others.
4. Experiences in practicing thrift.
5. Experiences in practicing responsibility and independence.
6. Experiences in evaluating things.
7. Experiences in taking care of oneself.
8. Experiences in appreciation of beautiful things.
9. Experiences in vocational activities.
10. Experiences in homemaking.
11. Experiences in the activities of democratic government.
12. Experiences in social activities.

The administration of the school has three distinct methods from which to choose in scheduling its program. It may use a subject type of curriculum and enrich this program by much supplementary material, by the addition of new courses and by field trips, activity program, work experience programs, etc. to serve new needs as they arise. It may use a core curriculum by organizing related subjects around a certain life-interest and require all students to participate in this phase of the curriculum, and offer special experiences through other subjects to satisfy needs and

desires of individual students. The administration has as a third choice the instituting of a new program known as the experience curriculum. This type of curriculum functions by making experiences the central point around which the curriculum is organized. It would teach by having the student participate in actual living experiences.

How to develop a program based on the changing attitude of the educational staff and community toward the real purpose of a school is a fundamental question that concerns us all. With our purpose the full development of youth, we should carefully examine the present courses of study to determine whether the emphasis is on the teaching of subject matter or on adolescent development. Shall we rearrange the subject content of textbooks and add to the courses now in current use the enrichment that may be had through audio-visual aids and community resources or shall we explore the possibilities of revising the entire program in terms of child needs and experiences?

A recent tendency is to organize the curriculum in terms of broad field areas, such as, personal needs, social functions, learning experiences. The core curriculum offers special possibilities for this type of organization. A core may be regarded as that aspect of the total curriculum which is basic for all students and comprises learning activities that are organized without reference to conventional subject lines. The core curriculum uses large blocks of time in the daily schedule in order to make possible diversified activities and discourages use of long drill periods which do not contribute directly to the control problem involved in the unit.

The most common plan for initiating core curriculum development is the unification of certain subjects or parts of subjects—as the combination of English and Social Science, or the grouping of Social Science, English and Science. It is comparatively easy to administer because it can be introduced with much less change in daily schedule.

In making curriculum changes school administrators will need to realize that the problem is one that involves the youth, the parents, the educational staff, and the entire community. They will therefore call in community leaders to sit in conference with teachers, staff, pupils, and supervisors in reorganizing the offerings of the curriculum in such a way that all of a youth's experiences from the time he leaves home each day until he returns are planned to make an adult who is emotionally adjusted, who accepts his responsibility to the home and community, and is able to give of his talents to their fullest extent.

Guidance

AN EFFECTIVE guidance program is recognized as one of the most important phases of an education based on the needs of youth. Guidance, or personnel work, has for its primary objective "the optimum personal development of the pupil." To aid the pupil in attaining this objective, the worker must assist him to understand himself and his problems, to make good use of his personal and environmental resources, and to choose and plan wisely in order that he may deal successfully with his problems and make satisfactory adjustments now and later.[1]

If the secondary school is to deal successfully with the needs and problems of youth, it will provide a personnel program at least sufficiently broad in scope to include those areas cited in recent reports by such organizations as the National Education Association and the American Education Fellowship: *physical health; mental and emotional health; social and ethical development; educational and vocational adjustment.*

The need for organized cooperative effort in guidance is apparent. Certain services can be performed by every teacher; certain services should be performed only by teachers selected and trained for them; and certain services should be performed only by the specialists. The appointment of a specialist does not absolve teachers and other staff workers from the responsibility of guidance. Ideally, every school should have its own specially trained counselor to coordinate the program, to supplement the work of the class teachers, and enlist the services of special agencies. The expert assistance of a specialist should be made available to all schools, regardless of size or location, either by county or state departments of education. (National funds provided for guidance would contribute immeasurably toward conserving our human resources.)

The size and needs of a particular school will largely determine the type of guidance program it seeks to maintain. There are, however, certain principles that are essential to all personnel work with pupils. From an analysis of several hundred writings, Warters lists these as fundamental:

1. Personnel work is concerned with the student as an individual.
2. Individual differences in student needs, abilities, and interests

[1] Jane Warters, *High-School Personnel Work Today*. New York: McGraw-Hill Book Co., Inc., 1946.

must be recognized and provided for as far as possibly by the school.

3. Personnel work is concerned with the whole student.
4. Personnel services are for all students, not for the maladjusted student alone. To serve all students, the work must be preventive, diagnostic, remedial, and developmental.
5. Personnel work is concerned largely with choices to be made and with adjustments in terms of the individual.
6. Personnel work implies counsel, not compulsion.
7. Personnel work seeks to assist the individual to become progressively more able to help himself.
8. Personnel work is a gradual and continuous process.
9. Personnel workers need professional knowledge and training in the use of specialized techniques for a more adequate understanding of individual students.
10. Organization is needed to make personnel work effective.

In all schools, the nominal head of the personnel program is the principal, for in him is centralized administrative responsibility. The principal should therefore be aware of the need for an effective guidance program and should understand what such a program involves. He does not often serve as the coordinator for guidance, but rather delegates responsibility for leadership in this area to a specialist or to some qualified staff member. He should lend his support and encourage the cooperation of his entire faculty. He should facilitate testing programs and make readily available cumulative records and all data concerning pupils. He endeavors to provide a curriculum varied and flexible enough to allow recommendations concerning a pupil to be carried out. Providing for and cooperating in an effective program of guidance is an essential administrative duty.

The School Staff

THE PRINCIPAL should have a definite voice in the selection of his personnel and staff, from the assistant principal down to the custodian. The pooled judgment of both superintendent and principal should be better than that of either one alone.

The basic school philosophy must be worked out by the principal, his personnel and staff, the pupils and parents. This philosophy should not follow a fixed pattern, but should allow for flexibility in satisfying the needs and interests of the "school family." There must be certain goals and objectives set up which are based

on the needs and interests of the pupils. The school family must work together to achieve these goals and each individual should be helped to realize the part he plays in contributing to this end. Although this may seem indealistic, it is essential to successful administration. The principal should be the guide and leader and each individual should be responsible to him for doing his best to live up to the philosophy of the group. He must really be democratic and not just believe in it as an idea. Respect for human personality should be placed above all other considerations; the principal should "know" his fellow workers, and ability and accomplishment should be recognized and adequately rewarded whenever and wherever found. There should be a feeling of unity and friendliness. Security and continuity of personnel in service for which they are fitted and in which they are happy and are making a just contribution of personal service should be maintained. Efficiency should be established and maintained first with regard to human factors and second with respect to material and inanimate things.[1] The democratic method should be used in assigning personnel to their individual jobs.

In order to adopt a philosophy and to attempt to have this philosophy function it will be necessary to have a program of in-service training. Some of the in-service training plans that have been found to be successful are:

Planning camps where the personnel and staff spend some time together in social life and attain some human understanding of one another.

Workshops where personnel and staff attempt to formulate a philosophy at the beginning of the year and meet during the year to try to overcome the growing pains of the philosophy.

Faculty meetings where school problems and individual problems are discussed with a view to solving them through study and cooperation.

Health conferences to discuss the problem of teachers' mental and physical health, with the idea that only the physically and mentally healthful teacher can deal efficiently with children and youth.

Visits to other schools in order to study methods of handling certain problems.

Bringing in well-known educators who will provide stimulating and inspiring experiences for teachers.

Constructive supervision with the idea of helping teachers to grow and develop.

[1] Shafer, Hugh M., *Principles of Democratic Personnel Relationships in Administration*, University of Oregon, Eugene, Oregon, 1944.

The Library

THE LIBRARY as a service center for the high school becomes a coordinating agency without regard to subject-matter divisions. It provides desirable library opportunities at all learning levels.

Changing school methods necessitate frequent appraisals of library objectives. At best, they are only goals toward which the library should progress. In general terms, the educational activities fall into two main divisions: (1) Reading, and (2) research or reference. However, the continued broadening and socializing of the modern school program call for further extension of library objectives. The following are agreed upon as fairly acceptable:

1. Creating interest in the library as a laboratory instead of a room
2. Helping users acquire correct library techniques
3. Promoting a critical attitude toward public issues
4. Teaching the use of leisure time as a step toward personal happiness
5. Helping young people investigate various fields
6. Helping young people to acquire desirable attitudes
7. Providing for a continuance of education after school is over

Through trained personnel, library ideals may become practical realities. Too, teachers enrich and vitalize their work to the degree that they utilize all available library services. Close cooperation between library and faculty should result in complete integration of all materials of library instruction.

Recent trends in library science indicate increased emphasis on expanding the existing agencies. Attention to the development of the school library service is considered necessary to the development of good citizenship. Services commonly provided are in these fields: (1) Reading, (2) reference, (3) curriculum, (4) guidance, (5) community resources. The more recent development of the audio-visual-aids service is one which not only enriches the school program but also provides added ways of understanding human behavior.

Unfortunately, a difficuly arises here in that this becomes an administrative problem. Although the existing channels for ordering, cataloguing, and distributing make it a library duty, the objectives need clarification. Any service administered by the school is conditioned by the school's philosophy.

Health and Physical Education

SUCCESSFUL administration of the health and physical education program of the secondary school calls for a basic acceptance on the part of the administrator and the staff of the fundamental importance of health. Some of the requirements are complex, some of the most important ones are simple—so simple that they are likely to be overlooked. Among the "musts" of a secondary school health and physical education program are:

1. Clean toilets, soap, paper towels.
2. Opportunity to use lavatory facilities before lunch.
3. Hot lunch for all pupils, regardless of ability to pay.
4. Physical activity for all according to ability and condition of health.
5. Annual physical examination with appropriate action on findings.
6. Corrective exercise for the handicapped.
7. Complete health record for every student.
8. Instruction by participation.
9. Bathing facilities for athletic teams and provision for clean dressing rooms.
10. A health council to supervise and carry out the program.
11. Teachers, students to be trained in first aid.

High School Athletics

I. The Administrators and their duties:
   - A. Superintendent of schools
     1. Selects and places coaches and athletic directors
     2. Has complete jurisdiction of the athletic program
     3. Keeps before the public the idea that athletics are a part of the educational program
     4. Supervises athletic budget
   - B. Principal
     1. Carries out athletic program
     2. Is responsible for all players of teams sponsored by school
     3. Helps determine eligibility of players
     4. Is responsible for carrying out school policy
     5. Directs publicity
   - C. Coach and athletic director
     1. Carries out school policy

2. Coaches and instructs team candidates
3. Serves as head of physical education department
4. Has charge of teams' equipment
5. Teaches all phases of personal and community health

D. Student manager

1. Serves as "connecting link" between teams and student body
2. Looks after maintenance of athletic equipment
3. Has charge of preparing field and gymnasium for all home games
4. Is responsible for cleanliness of shower rooms and toilets
5. Keeps player statistics for awards

II. Objectives of athletics

A. To instill in all participants attitudes, abilities, appreciations, and understandings that are necessary for living in a democratic society.

School Government

THE chief purpose of administration is to facilitate human relationships. A school government which makes use of all personalities in the school situation is of great assistance in any school administration, and therefore becomes an integrated part of the school program. There are certain requisites to the establishment and success of such a program. There must be the existence of a real need for group participation; final authority should be vested in the administrative head; careful plans and purposes must be worked out in a cooperative manner before actual organization is attempted; definite duties and responsibilities should be given the school government; and everyone should be represented and feel that he is a participant.

The objectives of such a program are: (1) To develop among students and others the principles of good citizenship through experience in self-government; (2) to facilitate the administrative task through the development of a spirit of cooperation and understanding that would replace the autocratic office method of controlling human behavior.

The organization established should possess democratic features throughout. There should be a constitution and bylaws containing the objectives desired, the qualifications of members, manner of election and representation, powers and limitations, and flexibility of amendment, all in terms of the needs of the particular school

situation. It is recommended that no court system be established, for many people, especially students, look upon misconduct as requiring punishment rather than as maladjustment needing a cure.

Services that school government may render would have to do, among other things, with the care of buildings, buses, grounds, school supplies and equipment, libraries, bulletin boards, shops, cafeteria, health and sanitation, safety, school publications (such as the newspaper, the annual and handbook), athletics, movies and movie equipment, assemblies, public announcements, clubs, elections, school stores. School government should also serve as greeters to new students and visitors, and as molders of public opinion through forums, pageants, plays, and other programs of interest to school and community.

Certain dangers must be recognized lest they limit the success of the entire program: (1) The faculty and administrative head must not shirk their duties nor advise to the point of interference; (2) student officers must serve as expected and must in return receive the full cooperation of every individual for the good of the whole; (3) the organization must retain at all times directness, realism, and simplicity as the situation demands and not allow itself to become large and unwieldly.

Tests and Evaluation

ONE of the most troublesome administrative problems in the secondary school has to do with *testing* to determine pupil status and *evaluation* to determine total pupil growth.

In recent years there has been much questioning of the value as well as the validity of school marking systems. Some schools have eliminated marking entirely, and have even abandoned or modified the traditional grading and promotion system; others have experimented with various types of motivation of pupils and methods of reporting to parents to see whether it is possible to avoid the bad effects of marking and at the same time give some indication of the needs and progress of individual boys and girls. This is a field in which school administrators, together with teachers and parents, will need to make careful exploration and experimentation.

The purposes of evaluation are, in the main, to arrive at a better understanding of the child and improve the methods of teaching and learning. These involve (a) a concern for total personality rather than mastery of subject matter alone; (b) appraisal of pupil weaknesses and strengths; (c) better methods of facilitating learn-

ing in relation to pupil growth; (d) concern with individual growth rather than relative standing. Evaluation of instruction involves (a) determining the degree to which a school is reaching its objectives; (b) determining the extent to which desired changes in pupils are taking place; (c) determining the point at which to begin remedial procedures; (d) providing for individual differences in the curriculum; (e) providing for a democratic process of evaluating teacher ability or effectiveness of the teaching.

Among the possible instruments of evaluation are:

1. Observation of pupils
2. Records of *all* activities
3. Products pupils make
4. Tests pupils take—
   a. Teacher-made tests for subject matter progress
   b. Standardized tests for measuring year-to-year progress and for comparison with standard norms
   c. Parent appraisal

To improve evaluation a broader basis is necessary: Cumulative records that include citizenship information; close connection with the guidance program of the entire school; testing programs that cover more than subject matter mastery; reports to parents that are more informing, more definite, more precise. The descriptive form of reporting has been found useful in some schools; also joint evaluation by pupil and teacher, with procedures that fit children's needs. Thus conceived, evaluation becomes a phase of teaching, tests become learning exercises, and the results have a wholesome effect in the reformulation of educational policy.

It is the administrator's function, with the help of teachers and others, to determine the school's procedures for evaluation; to find out how well the outcomes accord with the objectives of the school and how well they fit the needs of pupils and the community; to secure revision from time to time of records and report cards; to find ways of appraising teachers' services that will lead to useful kinds of in-service training.

School Plant and Equipment

IN ADMINISTERING the school plant and equipment, care should be taken to keep the purpose and function of the particular school plant in mind. Today, a typical high school building might consist of an auditorium, gymnasium, library, shop, several laboratories, special rooms and classrooms. The building

should furnish opportunities for study and for physical and social growth. We must keep in mind the economical use of the school plant. The administrator should have current information regarding the number and capacity of classrooms, which are suitable for use as home rooms, which for study halls, the size and equipment of shops, laboratories, libraries, gymnasiums, and auditoriums. The administrator should investigate the adaptability of the room and the subject.

Building needs will vary with communities. The function which the building is to serve should be kept in mind while selecting the grounds and building site and planning the building. It appears that there will be a larger school population than ever before; all buildings should be planned with this fact in mind. The range of interests is ever widening, calling for even a more varied curriculum. The space devoted to classrooms, libraries, study halls, auditoriums, gymnasiums, laboratories, shops, visual and audio education, dramatics, music, administrative offices, rooms for teachers, janitors, storage, boys and girls, cafeteria, corridors and stairways should be carefully considered. Will this space make it possible to operate the building in the most economical manner?

Equipment to be taken into consideration includes lockers, seating, heating and ventilation, lighting, water supply, and the like.

The administrator should inspect the building daily, and give attention to any neglect of duties, especially when this neglect interferes with the functional operation of the school plant.

THE SCHOOL BUDGET

The size of school budgets will necessarily vary, depending upon the size of the school. In any event, the administrator should set up a definite accounting system, no matter how small the fund may be. His books should be audited by a second person at least every month.

The administrator should try to see that the budget is sufficient to meet the needs of the school. Then he should see that every dollar is used wisely and economically.

In preparing the budget for the coming year, the budget of the previous year should be carefully checked—making such changes as are considered necessary. The heads of various departments should be consulted with a view to securing their advice as to their peculiar needs. Their recommendations should be given serious consideration. The administrator should personally investigate any inadequacies of the proposed budget. Duplicate expenditures should be avoided. In planning the budget, all aspects of the school

plant and equipment have to be taken into consideration—operation and maintenance of the plant and grounds; estimated school population; the projected curriculum with respect to the actual plant facilities; textbooks and instructional materials and supplies; the staff, janitorial and service payroll; debt retirement and any other possible expenses and contingencies.

Student participation is essential in the expending of student funds. Student organizations should be required to keep accounts up to date in a businesslike manner. These accounts, too, should be audited by a representative of the administrator.

Articulation of Elementary School, Secondary School and College

ARTICULATION, integration, and interrelation of the educational program from nursery school or kindergarten through college as a single unit is part of the effort to make education a better social instrument. There would be a common philosophy but differing programs at varying levels. The program would consistently stress fundamental concepts of democracy. It would provide experiences appropriate to varying levels of growth, with each grade or division in close relationship with those above and below.

Standardization is not the aim. Education must be administered democratically through intelligent cooperation. "Administrative decisions and responsibilities are properly the joint affair of all concerned in the results," William H. Kilpatrick says. Perspective is afforded by the teachers and the people outside of school. Cooperative planning by administrators, staff, parents and pupils is the democratic way to provide a unified, integrated, articulated program.

In spite of our efforts to see that equivalent educational opportunity is offered to all, many young people leave school because they do not find it offers what they are interested in and consider important. Maladjustment is aggravated upon entering high school. Modern psychology seems to indicate that emotional difficulties at the early adolescent period are probably increased by the drastic changes in curriculum, organization, and personnel common in junior high school. At the place where the youth needs the stabilizing influence of a single teacher he is faced with the effort to adjust to several, all making special demands upon him. Another serious problem which he finds is the complex curriculum with

divisions which sometimes operate to the detriment of the pupil.

Common integrating education at all levels is regarded as an important function. Students should stay in the group or class in which they start or begin school if at all possible. This articulation would mean turning away from the traditional divisions and organization, and setting up a program in terms of vital problems.

Administrators, teachers, parents and pupils might form a cooperative committee to study and diagnose tentative plans for the articulated unified program. A study of child development would aid in providing a knowledge of the needs that should be considered in a program which aims to foster desirable development.

This program would encourage experimentation, evaluation of the changes in the pupils, and revision and development of the program from year to year.

One of the difficulties in articulation between high school and college lies in conflicting aims in high school. In high school some of the young people are preparing for college while many others will leave school to go to work. Many high schools overcome this difficulty by offering a general program.

Few colleges still set up rigid entrance requirements based on high school preparation or entrance examinations.

Public Relations

AN IMPORTANT phase of administration and one that is often neglected is the program of public relations. To be successful in creating good will of the public such a program must have worthy purposes and use ethical methods.

There seems to be a twofold basis for a public relations program. First, education is a necessity in a democratic society. Second, the American people have faith in education. It is the consensus of opinion that people of a community want good schools. What they need to have interpreted is what constitutes a good school and how theirs can be made a good or a better one. General supervision of the public relations program is a part of administration. Groups to be reached are school board members, school employees, pupils, parents, and the general public.

Several factors about education give it a peculiar need for a program of public relations—the fact that the school is dependent in a large degree upon public support for its policies and procedures and that it has fewer direct contacts with adults than many agencies. Too often the information that the public gets about

schools comes to it in an indirect way and, therefore, is far from accurate. Because the results of teaching are somewhat more intangible and more difficult to measure than other community services, it is important that school methods and procedures be properly and efficiently interpreted. It is a function of administration to give the public the information it should have. It needs to be informed about the purposes, accomplishments, conditions and needs of the school. More than informing needs to be done. The public needs to be brought into closer cooperation—actively working for improvement. Increased information often leads to increased interest. Knowledge also increases confidence and leads to increased support. There are other reasons why there should be a well-defined public relations program. Spread of misunderstanding and false apprehension need to be prevented. These are sometimes the result of lack of information and sometimes the influence of malicious misrepresentation by special interests that seek to shift or to reduce the cost. The administration should assume leadership in protecting against such attacks by special interests. Definite aims of a public relations program should be: To create a background of interest; to give appreciation of the purposes of school; to develop a sense of pride and responsibility in regard to local schools; to exchange ideas with laymen; to establish confidence in administration. There is need for a well-planned and continuous program that gives all the facts.

The public must be led to believe in the whole program of modern education. This will be possible when it knows and discusses the varied services of the school to the community; when it is given adequate explanations of innovations; when it understands the problems of administration; when it knows requirements for faculty preparation and personal qualifications; when it knows the comparative costs of education and other agencies.

One of the best means of gaining and maintaining public support is to make the school a good and beautiful one. The efficient and successful products of a school build up and strengthen favorable public opinion. Another method that has been found effective is the setting up of faculty and student committees to assemble and distribute news.

It is not enough, however, simply to report news. The administration should make news with a well-planned program showing the activities of the school-band and glee club concerts, exhibits, fashion show, dinner or luncheon to which board members are invited, student participation in affairs of school. Community use of

the school and the formation of a coordinating council are useful means of gaining public support.

Although it is important for the entire school personnel to participate in the public relations program, the chief administrator has an individual responsibility in regard to records of enrollment, cost, and progressive trends. He should welcome opportunities to present facts to civic organizations and to establish friendly contacts with individuals and agencies in the community. In planning the program and making conclusions he should use a scientific approach to school problems. For successful administration of the whole public relations program it is important to maintain proper balance of educational values and to interpret them candidly and honestly.

An Audio-Visual Program

Activities of the Department of Secondary Teachers of the National Education Association in the field of audio-visual education are carried on through ten committees dealing with (1) methods for utilizing audio-visual materials; (2) bibliographies of such materials; (3) children's standards of judging films and film strips; (4) demonstration centers; (5) awards to schools; (6) cooperation in research studies; (7) fostering the influence of photoplays on reading; (8) cooperation with churches and community organizations; (9) classroom instruction in appreciation; (10) censorship legislation. The organization covers the intermediate school, the junior high school, the senior high school, the junior college, and the teacher-training institution. Application for participation in the work should be directed to Dr. William Lewin, coordinator of the committees, whose address is 172 Renner Avenue, Newark 8, N. J.

The Southern Rural Life Council has recently made available two attractive pamphlets—"Education and Rural Community Living in the South," and "The Church and Rural Community Living in the South,"—that are particularly useful because of the first-hand illustrations they give of what has actually been done by different communities. In the introduction to the Education pamphlet Dr. John E. Brewton says: "The quality of living in rural communities depends in no small degree upon the character and quality of education in these communities." The publications are obtainable from the Council at Peabody College, Nashville, Tennessee.

Recent Developments in Schoolhouse Heating and Ventilation

GEORGE W. HOLMES III
Principal of the High School, Asheboro, N. C.

CONCERN over schoolhouse heating and ventilation is nothing new in educational circles. As early as 1837 Horace Mann, making the first annual report of the Massachusetts Board of Education, spoke of the deplorable heating and ventilation conditions found in the schools of his day. He pointed out that far more attention had been paid to the construction of jails and prisons than to that of schoolhouses.[1] Since that time much attention has been given the problem. Theories have been developed and methods have been devised. In spite of this, practice continues to lag far behind theory in the typical school of today.

When Horace Mann made his 1837 report the carbon dioxide theory of ventilation was generally regarded as a satisfactory basis upon which to work. This theory, developed by Lavoisier in 1777, attributes the ill effect of air in crowded quarters to an excess of carbon dioxide. From the carbon dioxide theory the common standard requirement of 30 cubic feet of fresh air per minute per person was set up. Although this theory was exploded late in the nineteenth century, the standard for ventilation based on it remained and is today enforced by law in many states. One reason for the prevalence of the standard of 30 cubic feet per minute per person is that the carbon dioxide theory was followed by the theory of toxic organic substances in expired air—a theory requiring practically the same ventilation.

As may be readily seen, both the carbon dioxide theory and the theory of toxic organic substances in expired air put the emphasis upon air change as the main issue in good ventilation. Today, the thermal theory of ventilation emphasizes that temperature, humidity, and air motion are the most important factors in ventilation, rather than the chemical characteristics of the air.[2]

During the past quarter of a century New York state has led the way in study and experimentation directed at determining standards for the heating and ventilation of school buildings. As a result of the work of the New York Commission on Heating and

[1] George C. Mann, editor, *Life and Works of Horace Mann* (Boston: Lee and Shepard Publishers, 1891), II, p. 54.
[2] H. W. Nelson, "School Heating and Ventilating During the Past Fifty Years," *American School Board Journal*, 100:38, March, 1940.

Ventilation the Education Law of that state was amended in 1940 to do away with the 30 cubic feet per minute per pupil requirement which had been in force for years.[3] Under the old law mechanical ventilation was a prerequisite for securing the required volume of air. Under the present regulations New York does not require any specific type of heating or ventilation, but sets up standards which may be attained through any one of the numerous systems or combinations.

Of the types of heating and ventilating systems available today the following five are considered to be among the most important: (1) Direct heating with window air supply and gravity exhaust; (2) direct heating with window air supply and forced exhaust; (3) direct heating with forced unit ventilator air supply and corridor gravity exhaust; (4) forced warm air with central or zone fans; (5) panel heating with window air supply and gravity or forced exhaust.[4] Each of these systems can under proper conditions do the job and do it well.

Since simplicity and economy are desirable qualities for the typical school, direct heating with window air supply and gravity exhaust seems to be the nearest approach to an answer for the heating and ventilating needs. This would call for conventional radiation beneath all windows along one side of the room. It is recommended that all radiators be shielded to prevent excessive radiant heat output for the children nearest the radiators. Control of the radiators should be by hand valve or thermostat; preferably both types of control should be present.

For this system to function properly all windows must be equipped with deflectors so arranged that when the windows are opened the incoming air will be warmed, either by passing downward through part of the radiator, or by blending directly with the warm rising air. To complete the circulation of air in the room two or three exhaust openings should be evenly spaced near the ceiling along the side of the room opposite the windows. These openings should connect to gravity ducts or trunk lines leading up through the interior of the building and out through the roof. In designing the ducts and trunk lines the engineer should keep in mind an air change of 15 cubic feet per minute per person.[5] In large buildings where trunk lines must be of greater length, the use of central exhaust fans is recommended. All special rooms, such

[3] Don L. Essex, "Revision of New York State's Regulations on Heating and Ventilation of School Buildings," *American School and University* (New York: American School Publishing Company, 1946), XVIII, p. 231.
[4] *Heating and Ventilating Recommendations for New York State Schools* (Albany: The University of the State of New York Press, 1946), pp. 23-28.
[5] *Ibid.*, pp. 23-24.

as auditoriums, gymnasiums, laboratories, and toilets should have independent systems of forced ventilation.

It has been demonstrated that this system can, if properly controlled, meet all the requirements of good heating and ventilation. As early as 1925 direct heating with window air supply and gravity exhaust was recommended by Dr. C.-E. A. Winslow, professor of public health and director of the John B. Pierce Laboratory of Hygiene, Yale University School of Medicine. It has been only within the past few years that Dr. Winslow's findings have been recognized by engineers as well as members of the medical profession. At last there seems to be an acceptable answer to the problem of simple, economical, and satisfactory heating and ventilation of school buildings.

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Bantam Books and Scholastic Magazine are backing a publishing program designed to bring good literature at low cost to schools. Under the plan titles selected by Scholastic Magazine editors will be offered exclusively to teachers and their students at 25 cents per copy. Selections will be made from two sources: (1) from Bantam books already in print that have been withdrawn from newsstand sale for exclusive distribution to schools; (2) by reprinting books recommended by the editors of Scholastic Magazine and the nation's school teachers. Information as to the books already available may be obtained from Scholastic Magazines, 220 East 42d Street, New York 17, N. Y.

The Case for Driver Education in the High School

DR. HERBERT J. STACK
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SINCE *mental attitude* heads the list of motivating forces behind traffic accidents, a sound basic education on how to drive an automobile is the very essence of highway safety. Such knowledge provides a long-range solution to the problems of the annual traffic death toll by developing a new and safer kind of automobile driver.

Educators and accident prevention specialists who have studied the approaches to this solution maintain that the high school driver education course is the most effective answer. To teach the high school student safe driving practices and a sane attitude toward safety in general at the time just previous to his reaching the legal driving age is to take a long step toward avoiding unnecessary accidents.

At least three out of every five high school students will be either driving an automobile at graduation or within three years thereafter. One million new teen-age drivers take to the highway every year. The proportion of drivers involved in accidents is highest in the teen-age group and, basing statistics on mileage, teen-age drivers have the highest accident rate.

YOUNG DRIVERS "ACCIDENT PRONE"

As may be surmised from these few points, not only is it logical to teach driver education to youths just as they get behind the wheel because they are in the formative years when sound safety habits can be established, but the fact remains also that during this period these young drivers are more accident prone than at any other time in their lives. Thus, high school driver education serves a twofold purpose: It develops a firm foundation of safety habit which will carry through to safer, better living in later years and, in addition, it serves as on-the-spot accident prevention measure at a time when the student is most likely to have them.

Much has already been done to establish and expand safe-driving instruction in secondary schools. A great deal more remains to be done. Last year more than 5,000 high schools, about one fourth of the public high schools of the nation, had some type of driver education. But the number of schools offering the courses is steadily increasing.

For the purpose of clarifying "driver education courses" it should be pointed out that such courses are those where organized classroom instruction is given, using a textbook devoted exclusively to traffic safety education, and following an organized syllabus of study. To be more complete and effective such instruction should include or be followed by actual behind-the-wheel instruction. This actual road work is not absolutely necessary, however.

Most educators interested in these courses feel that the ideal program should include 30 hours of instruction, but as few as 20 hours of instruction can constitute a course and still attain the desired goal.

Behind-the-wheel instruction is the most difficult part of a driver education course for the schools to maintain. First there must be considered the purchase and maintenance cost of instruction cars. Secondly, such necessarily "off-campus" instruction is sometimes difficult to arrange with limited teaching staffs.

In many cases these difficulties have led school boards or high school principals to shy away from driver education courses. Some high school administrators feel that unless road instruction is given the classroom course is worthless and, being unable to arrange the road instruction, do not include any driver education in their program at all. Fortunately, however, many other administrators have taken the view that safety instruction of any kind is of some advantage and have included good classroom driver education courses in their schedule.[1]

HOME SUPERVISION PLANS

Small schools can have behind-the-wheel instruction. Several states now encourage "home supervision plans" wherein parents or interested adults who own automobiles volunteer their time and the use of their cars to help the students with actual driving practice. A notable example is at Abington, Massachusetts, High School, where parents are invited to meet with the principal and the instructor at the beginning of each new course. The principles and the need for such driving instruction are outlined and the parents sign up to help with the road instruction. Principal Charles Frolio, originator of the Abington Plan, points out that such home cooperation gives older persons, who may have relaxed their own driving habits, a refresher course in safe operation of an automobile while they are actually instructing their children and other students.

[1] *Behind the Wheel*, a 38-page guide to road training for use by parents and friends cooperating with high schools, is published by the National Conservation Bureau and the Center for Safety Education at New York University, New York City.

Resource-Use Education

A Tool For Regional Development

JOHN E. IVEY, JR.

Given adequate natural resources and human resources, what is it that determines whether a society will prosper? Or, to put it another way, why is it that in some societies the people, in spite of the fact they have adequate natural resources at their disposal, still find it difficult, and sometimes impossible to achieve satisfactory levels of living?

These questions pose a problem which has been weighing heavily on educational leaders in the southern United States. For in the southern region this is not an academic matter; southern leaders know full well that in modern society natural resources, no matter how great their potential value, make little or no contribution to living until the people have the skills, machines, capital, attitudes, and the motivation to use resources to satisfy their individual and group needs.

For decades, research specialists have been adding to a veritable mine of information on the status and opportunities for use of the natural and social resources of the Southeast. Scientific facts on the status of resources of the region paint a picture of a people using but a small part of the wide variety of resources potentially at their disposal. Cotton and tobacco largely dominate commercial agricultural activity. The region's industry pours into the stream of commerce manufactured products which, in general, represent primary stages of manufacture. The workers, both in agriculture and industry, earn income well below amounts received in other regions of the nation.

Potentialities of the South have been set forth in bold terms, well based on scientific inventory. Diversified farming, decentralized industries drawing on agriculture for raw materials, higher levels of finished-goods manufacture, rural and urban housing developments, more adequate public services for health, education, welfare, and government—all these activities are examples of potential areas of regional improvement.

The gap between potentiality and the present status of living in the Southeast seems to exist for the most part because the people of the region, their natural resources, their leaders, and available scientific information have not been united into living and working arrangements which spell progressive change. It is comparatively easy for the scientist to sit in his office and blueprint "desirable" social changes, or determine *what* needs to be accomplished. This has been done in many research documents. There still remains, however, the job of discovering *how* that scientific evidence and conclusion can be brought into the sphere of human action. Therefore, to the people of the Southeast, a major task in regional development lies in discovering not only *what* needs to be done but *how* the job is to be undertaken—how the people and scientific information are to be more effectively united.

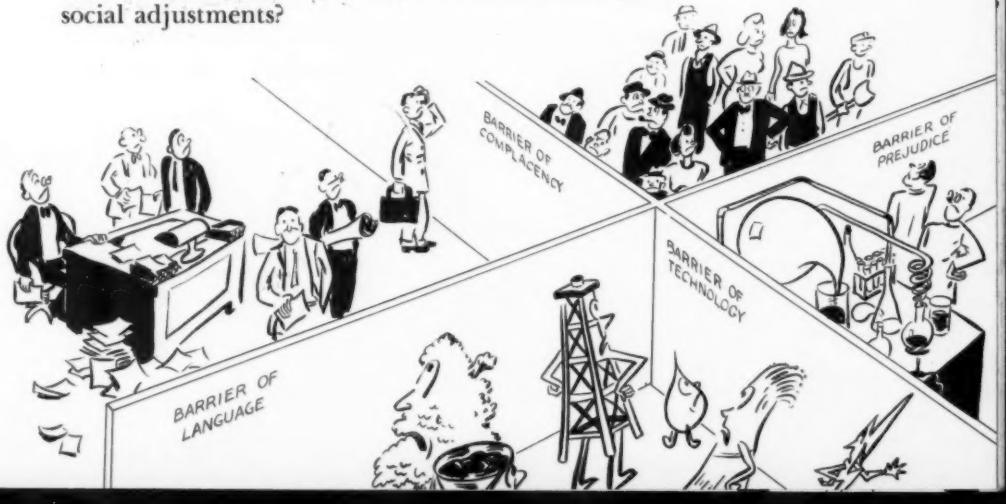
Regional development implies change, change in existing ways of living and working; successful social change requires satisfactory adjustment among the various aspects of social environment. Regional development, then, is essentially a concept denoting a *process* of achieving higher and higher levels of adequacy in social adjustment. If we are to discover *how* science is to contribute more effectively to this process of regional development, it is necessary to identify (1) the types of relationships involved in social adjustment within a region; (2) where the process of developing these relationships actually takes place; (3) what kinds of public activity are essential to the process of regional development; and

(4) how education can stimulate the process of regional development.

Regional Development as a Problem of Relationships

Regional development, as a total problem, has two major aspects, closely interrelated. On the one hand, it is essentially a job of bringing about increasingly adequate relationships between people and their natural resources. Scientists and technicians in transportation, communication, agriculture, industry, and other fields of production possess the "know how" for this undertaking. On the other hand, regional development is a job of bringing about a more satisfactory relationship among the people themselves. This problem permeates law, government, medicine, religion, education, business, finance, and other such institutional systems in which social leadership functions among a maze of human values and attitudes. The social scientist—psychologist, sociologist, public administrator, economist, and educator—possesses much specialized information for application in these fields.

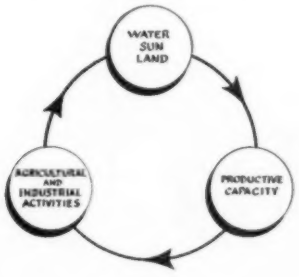
There are two criteria, almost truisms, on which one can judge the adequacy of relationships between men and their natural resources and among men living and working together in a given society: (1) what is the long-run effect on natural resources; and (2) what is the long-run effect on the welfare of men and their ability and capacity to work out adequate social adjustments?



The natural environment, left untouched by man, exhibits a tendency or strain toward biological balance. Water, sun, and land function in a unified process which gives a geographical area a certain productive capacity. The agricultural and industrial activities carried on in an area can be said to be effectively geared to the sustained productive capacity of the natural environment only when they contribute to the continuance of a unified relationship between the water, land, and sun.

For example, when men farm their land in a manner that speeds erosion, or continually saps the fertility from the soil, without ever using soil building practices, they are destroying the productive capacity of the area. When a forest area is cleared in one cutting and the land left to inroads of erosion from rain, a valuable wood producing unit has been destroyed, and the productive capacity of the uncovered land will be greatly diminished with the increasing severity of erosion.

Even when men use natural resources so as to maintain their natural productive capacity, there are some resources, such as iron, coal, and oil, which, unlike water, sunlight, plants, and trees, are not renewable. They represent exhaustible resources which cannot be replaced. Consequently, over a long period of time men should use inexhaustible resources in such a manner as to draw as little as possible on their exhaustible resources. There are cases, for example, where hydro-electricity, made from an inexhaustible resource—water—can be substituted for power furnished by oil or coal, exhaustible resources. In such situations, the long-run



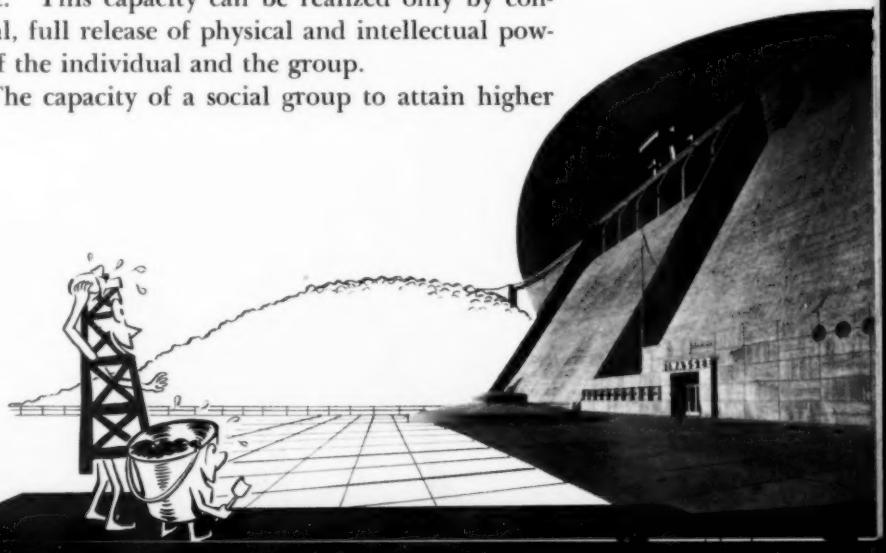
necessity for preservation of exhaustible resources would demand that water power be used whenever possible.

Thus, we have two criteria of the adequacy of the use relationship from the standpoint of what happens to the natural environment as a result of its use by man: (1) the maintenance of a sustained productive capacity of natural resources by strict observance of the unified relationships among the various elements of the natural environment; and (2) the use of exhaustible resources in such manner as to prolong their availability by substituting inexhaustible resources whenever possible.

Now, to get to the second measure of the adequacy of relationship between men and natural resources and of the relationship among men: "What is the long-run effect on men?" Are men using the land so that they avoid nutritional deficiencies by producing food which is rich in minerals and vitamins? Do all men have access to medical and educational facilities so that they develop to the maximum of their physical and psychological capacity? Do all men have the opportunity to participate in economic and social activities so as to make a maximum contribution in the processes of living and working?

The assumption underlying each of these questions is that every normal individual and each group possesses a sustained capacity for socially productive effort. This capacity can be realized only by continual, full release of physical and intellectual powers of the individual and the group.

The capacity of a social group to attain higher

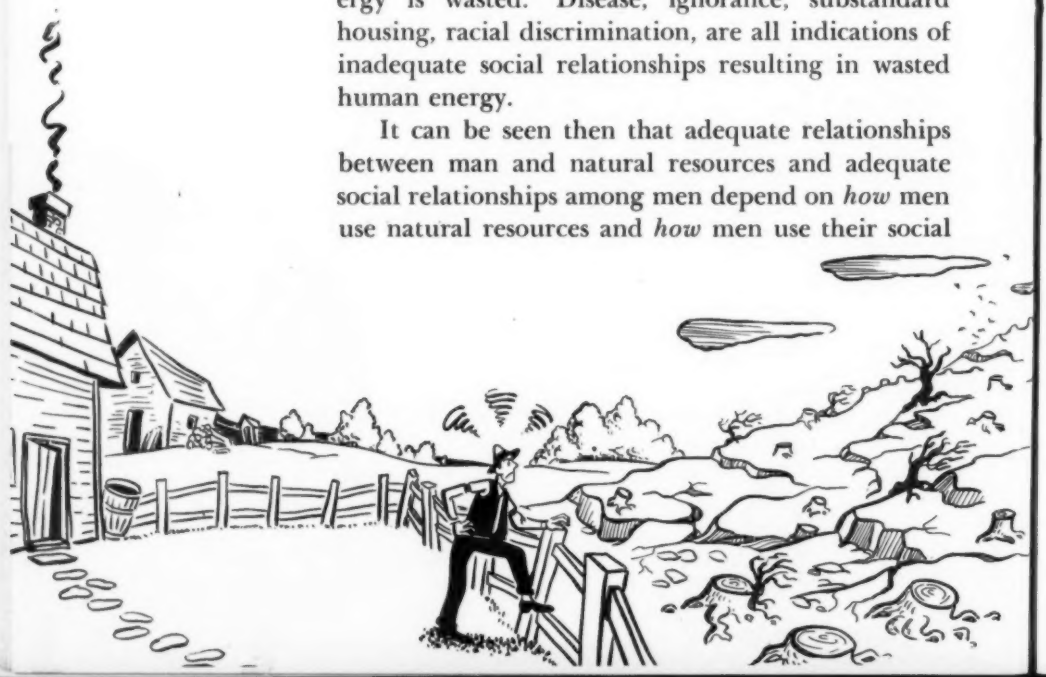


levels of adequacy in social relationships can be measured on three highly interdependent points: the extent to which (1) the physical capacity of each individual is developed; (2) the intellectual capacity of the individual is developed; and (3) group customs, technological facilities, and social institutions are organized to provide ways and means for individuals to identify and develop procedures for meeting physical and intellectual needs.

These three points indicate the importance of social attitudes, values, and motivation which condition individual thinking and action as participants, for example, in business, government, religion, education, and family relationships. For it is through these established types of social relationships that individual needs are defined and met. Just as man uses certain elements of his natural environment and calls them his natural resources, he also uses these established types of social relationships as resources to meet needs. They are, in a very real sense, man's social resources.

When existing social relationships do not facilitate, or when they oppose, the full release of all individual and group creative energies, human energy is wasted. Disease, ignorance, substandard housing, racial discrimination, are all indications of inadequate social relationships resulting in wasted human energy.

It can be seen then that adequate relationships between man and natural resources and adequate social relationships among men depend on *how* men use natural resources and *how* men use their social



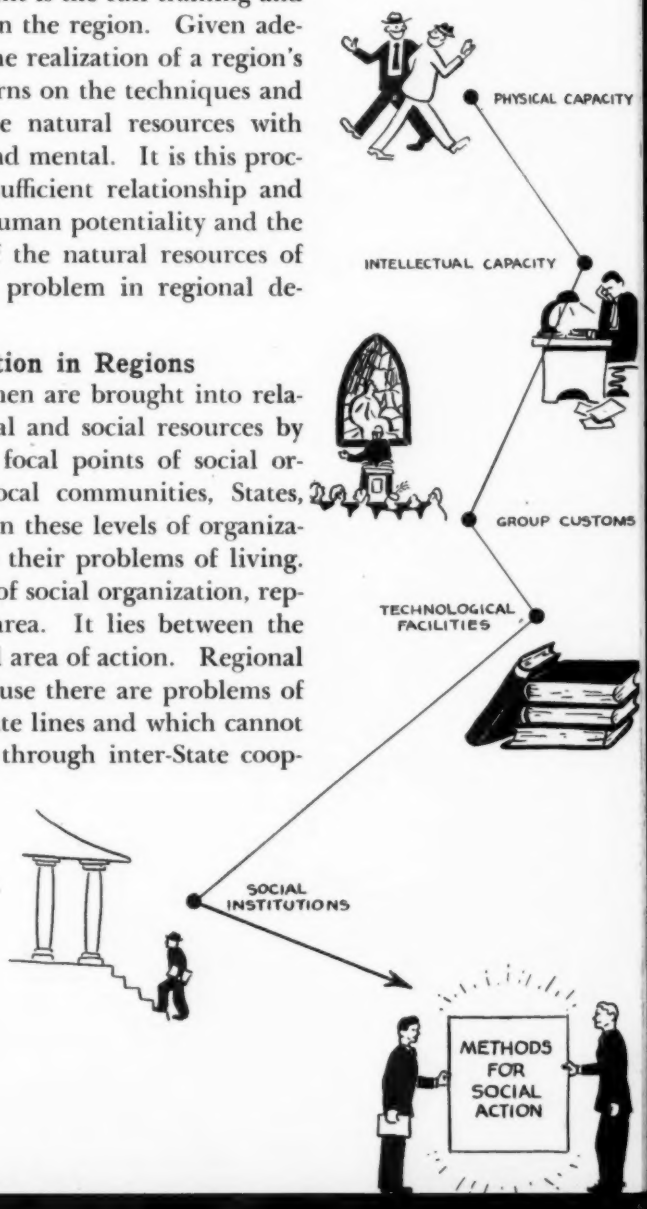
resources to define and meet needs. Every environment, physical and social, has a productive capacity; the degree to which it is developed and maintained is one main guide line for judging the adequacy of the way men are using their natural and social resources.

Since the effective use of natural and social resources depends upon human energy, the basic problem of regional development is the full training and use of the human beings in the region. Given adequate natural resources, the realization of a region's productive potentiality turns on the techniques and procedures of uniting the natural resources with human energy, physical and mental. It is this process of achieving a more sufficient relationship and adjustment between the human potentiality and the productive potentiality of the natural resources of an area that is the basic problem in regional development.

Community Action in Regions

In the United States men are brought into relationship with their natural and social resources by three highly interrelated focal points of social organization and action: local communities, States, and the nation. It is upon these levels of organization that Americans solve their problems of living.

The region, as a level of social organization, represents a group-of-States area. It lies between the State area and the national area of action. Regional action is necessitated because there are problems of living which cut across State lines and which cannot be effectively met except through inter-State cooperation.



In the Southeast problems such as flood control, soil erosion, interterritorial freight rates, cotton and tobacco production, race relations, and many others, affect the lives of people in many States. To work effectively toward solutions of these problems there must be a framework of inter-State action. In this sense, regional organization and action can be thought of as an integrating facility among States.

Federal action on the regional level should be viewed primarily as a means of strengthening the ability of States and communities to solve their own problems through inter-State cooperation, on the one hand, and through State-Federal collaboration, on the other hand. The operation of the Tennessee Valley Authority has well demonstrated the sound principle that a regional agency, while serving as an integrating facility in a seven-State area, can successfully pursue a policy of working with and through State and local agencies and institutions. In the field of agriculture the T. V. A. works through the various State land grant colleges; in health it collaborates with State departments of health; and similar procedures are followed in conservation, education, and many other phases of regional development.

Yet, within a framework of inter-State organization, the processes of regional development, being essentially problems of human development, find their mainsprings firmly rooted in the communities of the area. It is in their communities that people live and work; the family, church, business, school, government, and State and Federal services take concrete form. Human motivation is the real force; social attitudes and values guide human behavior. On the basis of these social values, right and wrong are evaluated; wants and desires are formulated and given expression in the way men work and live.

The adequate development of the South can be measured only in the extent to which there is achieved a richer quality of community life. This fact places the responsibility for southern develop-

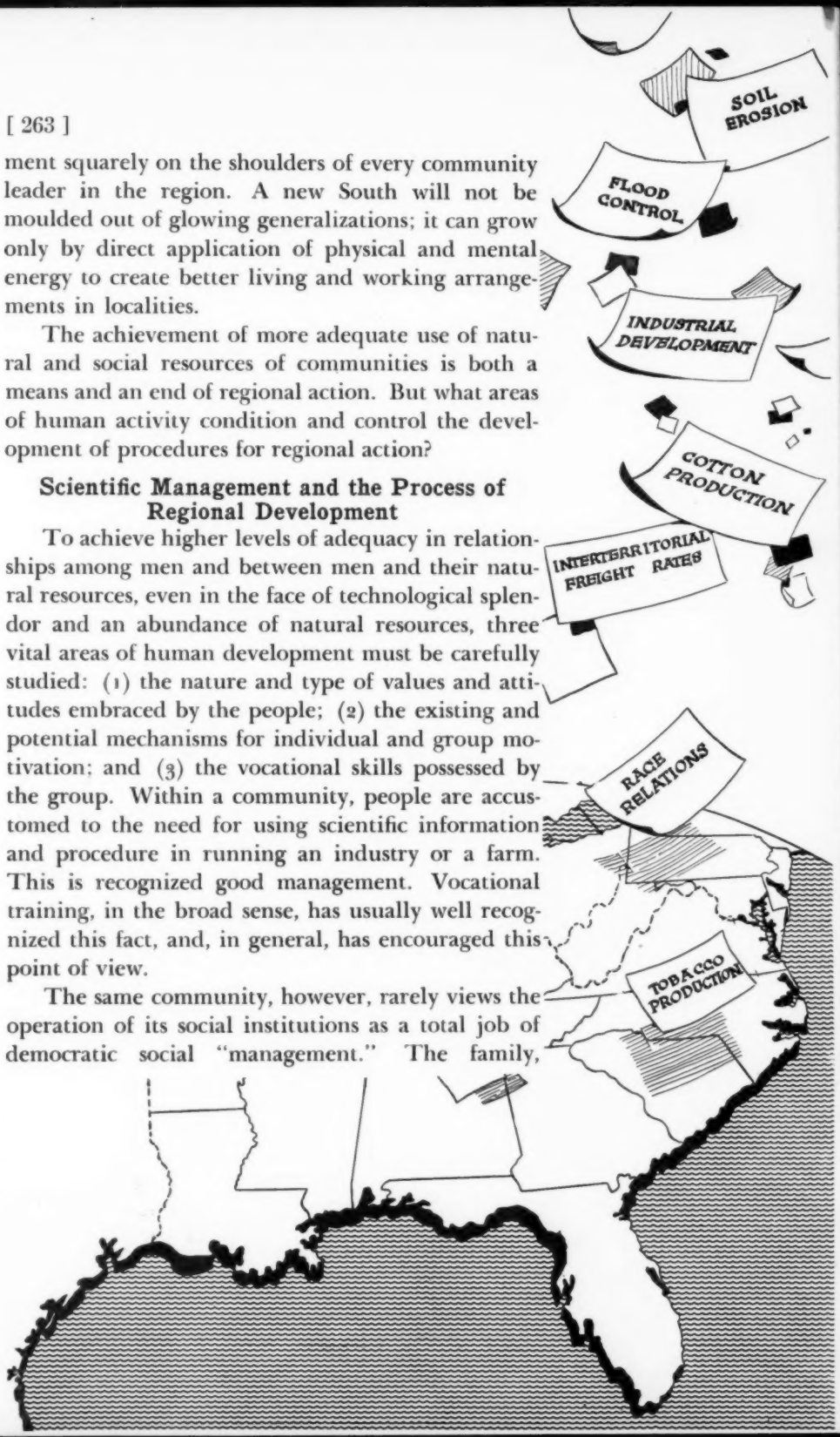
ment squarely on the shoulders of every community leader in the region. A new South will not be moulded out of glowing generalizations; it can grow only by direct application of physical and mental energy to create better living and working arrangements in localities.

The achievement of more adequate use of natural and social resources of communities is both a means and an end of regional action. But what areas of human activity condition and control the development of procedures for regional action?

Scientific Management and the Process of Regional Development

To achieve higher levels of adequacy in relationships among men and between men and their natural resources, even in the face of technological splendor and an abundance of natural resources, three vital areas of human development must be carefully studied: (1) the nature and type of values and attitudes embraced by the people; (2) the existing and potential mechanisms for individual and group motivation; and (3) the vocational skills possessed by the group. Within a community, people are accustomed to the need for using scientific information and procedure in running an industry or a farm. This is recognized good management. Vocational training, in the broad sense, has usually well recognized this fact, and, in general, has encouraged this point of view.

The same community, however, rarely views the operation of its social institutions as a total job of democratic social "management." The family,

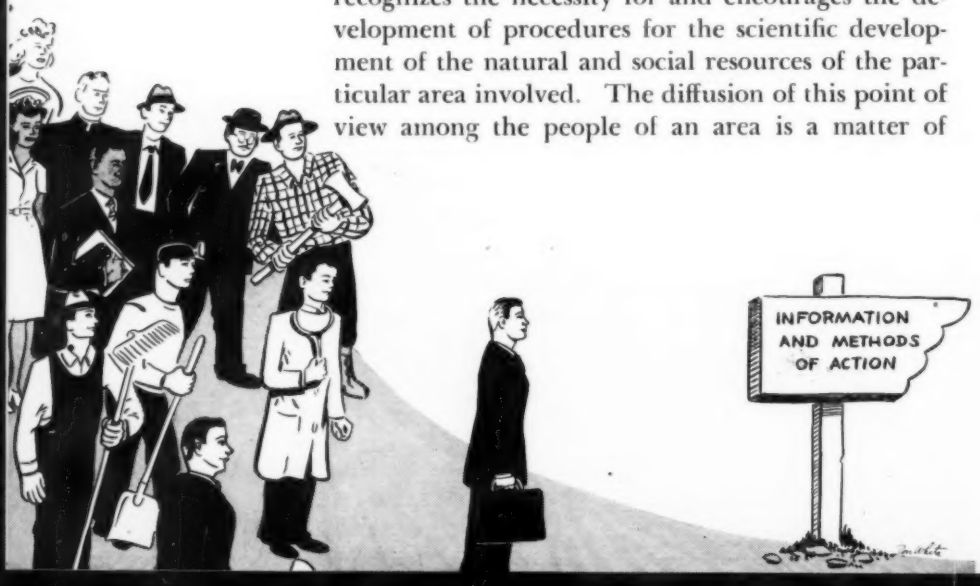


church, school, business, and government are expected somehow to meet the needs of the people without any special over-all attention. People have not yet generally accepted the fact that man has the scientific information necessary to allow him to manage more effectively the total social resources of a community.

By use of scientific information the people of a region can achieve more adequate relationships with their natural resources. Capital, technology, and business organization can be applied to problems of production, distribution, and use of commodities.

To achieve more adequate relationships among men there must be a similar democratic use of scientific management in the field of human relations. Experience has shown that the solutions of such problems as health, housing, social security, labor relations, education, and government in a democracy cannot, and need not, be left to some "invisible hand." Today, adequacy in use-relationships of man to natural resources depends more than ever upon adequacy in social relationships among men.

The major premise here is that the *processes* of regional development cannot be effectively and permanently set in motion unless there is generally accepted among the people a point of view which recognizes the necessity for and encourages the development of procedures for the scientific development of the natural and social resources of the particular area involved. The diffusion of this point of view among the people of an area is a matter of

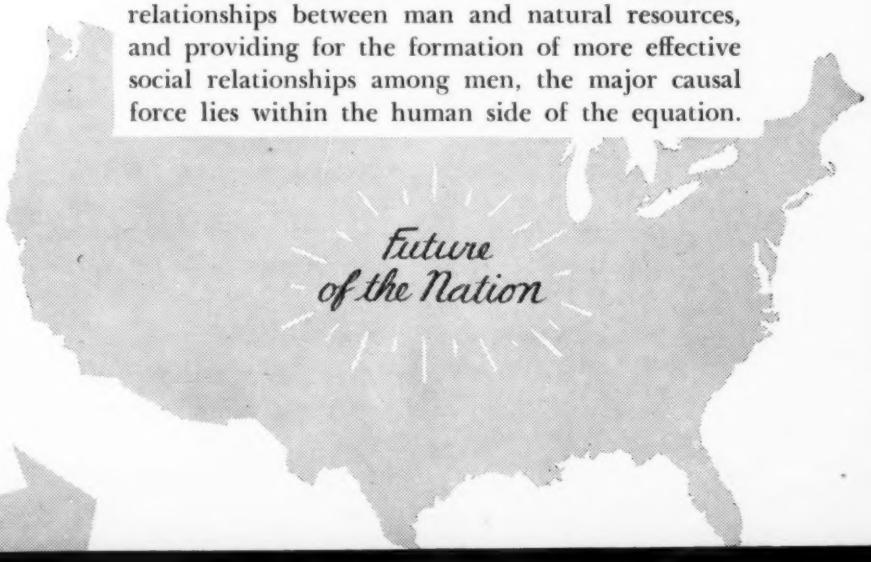


stimulating the development of values and attitudes which become reflected in activities of individuals. Vocational skills in the use of natural resources—farming, forestry, mining, industry—and vocational skills of bankers, doctors, lawyers, merchants, educators, public administrators, and others, cannot make a maximum contribution to regional development unless guided by information and a general philosophy based on *broad* principles of scientific resource management.

In the United States democratic processes are basic in developing procedures of scientific resource management. These processes require maximum individual and group participation in (1) identifying what objectives are to be pursued; (2) deciding how, or through what procedures, the objectives are to be attained; (3) implementing procedures agreed upon.

This process of reaching individual and group decision and of taking group action can be no more effective than the information, point of view, and experience which enter into the judgments made. At once it becomes apparent that education, in the very broadest sense, must be the major social process underlying the development and implementation of regional programs for scientific management of natural and social resources.

The role of education also is underscored when it is remembered that, in developing more adequate relationships between man and natural resources, and providing for the formation of more effective social relationships among men, the major causal force lies within the human side of the equation.



Machines and natural resources cannot be brought into effective productive relationship until men have the skills, attitudes, and motivation to organize adequate working and living arrangements. One can logically conclude, then, that the future of the South largely rests on the development of dynamic educational procedures which provide the region's people with skills, attitudes, and motivation to continually use available research facts for the scientific management of the area's natural and social resources.

Education for Scientific Resource Management

What kind of education would contribute to realization of a better quality of living in the South and other American regions? How can it be made realistic, down to earth? How can the task be begun? These are basic problems which must be faced frankly without using the well-known ender of many ideas for progress, "it can't be done."

Education, viewed as total life experience, cannot be drawn into neat, labeled compartments. At the same time, experiences are not educational until they have some significance for, or use in, the life of the individual or group. It would seem, then, that educational experiences designed to improve the quality of living in the South must find their focal points in terms of the individual and group problems of living.

From this point of view there can be no absolute or generalized statement as to what *content* of education would contribute to the improvement of the quality of life. Problems of living, while often reflecting general similarities among communities and among States of a region, are unique in their local incidence. Consequently, because of differences in types of problems, or in the nature of similar problems, within a region, education must look to functional guides and emphases as standards for attainment.

Elements of Resource-Use Education

Educational experiences planned with the objective of stimulating scientific resource manage-

ment, while built within a group's problems of living, should have at least five functional elements.

First, the basic facts which people learn pertaining to their resources and problems should always hold in proper perspective (1) the interrelationships and unity of the various elements of the natural environment and man's role in maintaining that unity; (2) how individuals and groups can use their total environment to develop the maximum individual and social welfare and satisfactions; and (3) the measures of adequacy of resource-use relationships in terms of the inherent productive capacity of the natural environment and of the social environment. This latter point can be gauged specifically by observing (a) what is the long-run effect of man's activities on the productive capacity of the natural environment; and (b) what is the long-run effect of man's activities of his own inherent productive capacity.

These considerations for resource-use education can be restated as a series of focal points which provide a basis for an integrated approach to the total curriculum, for example:

1. How the physical and biological materials and forces of environment provide a unified medium for life.
2. How man uses the biological and physical forces and materials of environment to meet his wants.
3. How the group life of man can be developed to keep it geared to the productive capacity of the physical and biological forces and materials of environment.
4. How man keeps healthy—physically and mentally.
5. How man develops the intellectual, physical, and spiritual capacity to use and enjoy his environment.
6. How group life contributes to and erects barriers to the full development of human capacity and environmental capacity.

7. How the values and customs of a society contribute to and erect barriers to the full development of human capacity and environmental capacity.
8. How man invents new methods for use of the natural and social aspects of environment so as to achieve full environmental capacity.

Notice that each of the above statements refers to *how* various processes take place in environment. The purpose of the *how* in each case is gauged in terms of its effect on life. In this sense, these focal points offer guides for selecting those aspects of various scientific fields which are directly pertinent to living.

Obviously nearly every environment which supports life has unique characteristics either in its physical materials and forces or in the social (cultural) materials and forces. Such unique characteristics of a given environment can serve as the starting point for application of the more general scientific principles incorporated in the categories stated above.

As an example, it is possible to present a system of questions which can serve as a framework for analysis of resource-use problems either in their local incidence, the community, or in their larger state, regional, or world impact.

1. What problem situations in environment are to be taken as indications of unscientific development of natural, human and/or social resources?
2. What usable and reliable descriptive study materials are available on these problems?
3. From an examination of such materials and field observations:
   a. What patterns of resource use can be recognized and defined as being casually related to these problems?
   b. What human groups are involved?
   c. What larger social institutions or organizations (social resources) are involved?

d. What social values or group attitudes are in conflict?
e. What natural resources are involved?
f. How are these resources being used in relationship to each other?
g. Where are inadequate use relationships between man and his resources revealed?
h. How long have such relationships been existent?
i. Has the existence of such use-patterns exhausted or damaged the natural, human, and social resources involved? If so, how?

4. What use-patterns of readjustment are needed?
5. What natural, human, and social resources that were formerly used inadequately are now available for new uses to meet the defined need?
6. What examples of adjustment may be studied?
   a. Are there any case studies or examples of areas that have made adequate adjustments to similar resource-use situations?
   b. Can these experiments be examined for effective technique and process and applied to the situation under study?
7. What will adjustment require?
   a. What changes or modifications in the nature or use of resources will be required in making the adjustment?
   b. What new natural, human, and social resources will be required?
   c. How can they be produced or created?

Subject matter in resources use should be considered not as understandings and skills to be gained through a special course or special program, but as an essential part of all formal and informal education. The biological and physical sciences, social sciences, and humanities, as conceived in formal education, can find basic points of integration on these subject matter themes. The entire curriculum of the public schools, through progressive stages of development, should infuse these principles into

existing courses and activities. College and university instructional programs face similar opportunity for emphasis and integration. Public and private agencies working with the resources and problems of an area should use these principles as guides for program development.

A second element in resource-use education is the matter of creating motivation to use resources in the most effective manner. Facts, even if thoroughly known, must exert some driving force on the individual before they effectively condition his thinking and acting. It is, therefore, necessary to surround information with appeals which are likely to precipitate action. Films, novels, group discussions, radio, newspaper editorials, church programs, as well as all types of written materials offer many avenues of attack on the problems of individual and group motivation.

A basic aspect of developing motivation to follow scientific resource-use practices is the development of individual and group responsibility for maintaining adequate use relationship between men and their natural and social resources. Soil erosion should be interpreted as reflecting irresponsible robbing of the land. Community problems such as substandard housing, venereal diseases, racial discrimination, objectively viewed, should be seen as symbols of failing community leadership. The inadvertent kindling of forest fire should incur the same community wrath as the deliberate burning of a factory or school house. The dumping of sewage into streams that might otherwise serve recreational

or water supply needs should be viewed with the same public anger as an act of dumping garbage into the center of a public playground. The adequate use of resources will not result unless motivating forces and attitudes creating an acceptance of responsibility are woven into the processes of resource-use education.

As a third element in resource-use education, people must be assisted to develop perception in knowing when they need further information. A part of this problem lies in cultivating attitudes which create a desire in people to use new scientific facts. Another part of the problem lies in assisting people to become aware of *sources* of information. State departments of health, conservation, education, State planning boards, State agricultural extension services, agricultural experiment stations, to mention only a few, are sources of information which is given in the form of reading materials, consultation, and technical assistance.

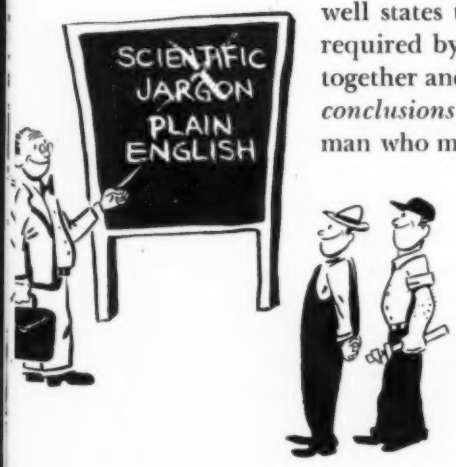
A fourth basic element in resource-use education, if it is to be integrated effectively with democratic processes, is that there be provision for people to become experienced in group decision making and group action. Assisting individuals to develop facility in group participation, while an educational problem itself, is essential to scientific management of social resources. The work of government, health service, public school, church, business clubs, P.T.A., and many institutionalized agencies, depends on group participation for its effectiveness.

Group action can result in uniting existing social resources more closely with newly developed needs, or can create new forms of social resources to meet the needs. As new needs become recognized in a community, e.g., substandard housing, stream pollution, racial discrimination, nutritional deficiencies, existing agencies have to find ways of meeting these problems, or the people have to organize new facilities to meet them.

When a large number of rural people began to discover that electricity could be made available to them through cooperative arrangements, this new form of group activity was started over large areas of the region. This represents a social resource, an invention of a new facility of group action in meeting a human need. A technical facility, electrical equipment, was brought into relationship with a need recognized by a group, through social invention, or social engineering. Individual experience in group decision making and group action is essential to this type of achievement.

Another aspect of developing facility in group participation lies in the relationship which must exist between the layman and the expert or specialist. This is a key matter in uniting people with scientific information. It is also intimately related to the problem of individual and group awareness as to *sources* of scientific information and services. To realize the full fruits of the democratic process in group decision making and planning, the experts or scientists, and laymen must be brought face to face in solving problems and implementing decisions.

An essential part of this relationship is that different kinds of experts, working in special fields that are related in their effect upon the people, should live together and work together. Mr. Lilienthal well states the principle that "unless specialists are required by appropriate managerial methods to live together and work together, they will not *unify their conclusions* so that they will make sense to the layman who must put the results to use in their lives."[2]



This second aspect of developing facility for group participation, the expert-layman relationship, is a basic two-way educational process. It breathes life into the expert's speciality; he sees his scientific findings woven into the fabric of life; he sheds his scientific jargon and, if necessary, relearns simple English as a tool for scientific expression. The layman can find self-expression and sense his part in group processes of living; a new spirit of motivation and accomplishment can spring from his group activities. Science and the expert bring new tools of thought and action, vividly real as seen in everyday application.

A fifth element in resource-use education is that there should be provision for people to develop skills, or "know how" in implementing decisions. One facet of this problem is solved by bringing the expert into the picture because he serves as a tie between the people and the technical services of the agency, business, or organization he represents. He can thus bring community problems into contact with the social resources available.

But when new skills are required, as in agriculture, industry, trades, or professions, there must be facilities for training. Adult education classes, vocational education in the public schools, apprenticeship experience in business, either in the community or in other areas—all these offer possible procedures for developing skills, more strictly of a vocational nature. No program for scientific management of a region's resources can expect to reflect success if it depends solely on "broad understandings" of sci-

Theirs is the responsibility and power of a democracy.

entific resource-use principles. Nor can it attract and hold the interest of the people.

The type of training called for here will in the main have to be given to people where they live. Colleges, universities, State and federal agencies, and private business represent social resources which can be drawn on to do the job. Its realization would demand, however, a concept of coordinated public vocational education based on the resource-use potentialities of the communities in which people live.

A Problem in Administration

From this brief discussion of elements of resource-use education, it is apparent that, just as education is viewed as total life experience, effective educational procedures to assist people in developing facility for scientific management of their resources must attempt to unite the people with all those influences and forces which can contribute to making life experience more adequate. All agencies and organizations—public, private, professional—working with or interested in the resources and problems of a region, its communities and States, have a stake in the problem of achieving this unity of educational effort. Some agencies have more direct responsibilities, e.g., the public schools, the churches, colleges and universities, agricultural extension services, agricultural experiment stations, State planning boards, State departments of education, health, welfare, conservation, and, in addition, many regional and federal agencies and organizations. These agencies, added to private business, constitute the social resources of the region. They must achieve some unity of objective and cooperative coordination of educational effort.

From this point of view, resource-use education can, in part, be seen as a gigantic job of educational administration. Educational techniques, media, curricula, agency and institutional relationships are points of focus which require continual appraisal as to their effectiveness in contributing to scientific resource use. Each phase of appraisal would in

some way be evaluated in light of the five elements of resource-use education.

A review of these elements reveals that each represents some aspect of interdependence among different varieties of educational and research activity. To create a recognition of the essential unity of the parts of the natural environment, including man's behavior in use of resources; to get the layman familiar with sources of scientific information; to develop motivation and a feeling of responsibility for scientific use of resources; to bring experts into working relationships with laymen; and to provide for training in new resource-use practices—all these matters, if they are to be successfully pursued, require new levels of cooperative coordination in administration of progams for education, research, and action.

Educational Administration Applied to Resource-Use in the Community

The anchor points for achieving regional development through administrative integration of educational and research activity must be deeply rooted in the philosophy and action of the local public school. The processes of scientific resource management, in final analysis, are set in motion in the community area of social organization. Throughout the greater part of the United States the school is the major center for community activities. In most cases, it is the only source of formal educational activity. Therefore, the responsibility of the local school in resource-use education is inescapable.

It also is obvious that in successful education

for scientific resource management the school principal, county superintendent, and State department of education must fit into a broadly conceived concept of public administration. On the one hand, they face the responsibility of assisting a rising generation to attain competence in use of their natural and social resources. On the other hand, these public school administrators must serve as catalytic agents in bringing the facilities of other educational and research agencies into effective contact with the people on community level.

In carrying out these responsibilities, the school principal and superintendent, collaborating with their staffs and lay leaders in their area, should (1) develop actions within their school systems which will increase the effectiveness of resource-use education within the school and will relate resource study, in part, to the resource needs of the area; and (2) examine the effectiveness of their procedures for working with other public and private agencies serving the resource-use needs of their people and who have materials and consultants that would be useful in the public school program.

If local schools are to go successfully through this process of thinking and action, and in turn facilitate effective scientific resource management in their communities, the State departments of education, State universities, land grant colleges, teachers' colleges, and many other State and Federal agencies will find opportunities to gauge their programs more effectively in line with problems of living in the areas they serve. Teacher training, both in-service and pre-service, processes of curriculum development and integration, school administration, and working relationships with and among non-school agencies—all these matters will have to be oriented, in part, to meet an area's needs for resource-use education.

Integrated Programs for Colleges and Universities

In a program of regional development, the in-

stitutions of higher learning should serve as "step up" transformers. They should provide the facility for infusing new power into the battery of skills and motivation which keep the wheels of social and economic progress turning.

The land-grant colleges and universities face new opportunities to reexamine their functions and organization in terms of the resource-use needs of their service areas. Fast transportation, new media of mass communication make it possible, as never before, for institutions to fuse the research, extension, and teaching functions into the total life of their state and region.

The new crop of engineers, lawyers, teachers, doctors, agricultural specialists, ministers, business men and others should excel in technical skills. But they should also possess a high motivation for public service. They should be humbled by the power of knowledge they possess and use it for the maximum development of the resource-use capacity of their areas.

In-service assistance programs for ministers, newspaper editors, county and state officials, business men, engineers, and many others, would provide opportunity for college faculties and students to work off campus. Also the college campus could become the scene of institutes and conferences designed to fill the needs of leadership training for the state's citizens.

Institutions of higher learning can and should maintain high respect for the great cultural traditions of history, literature, and art. But at the same time their curriculum, research, and administrative methods should reflect a close contact with the pressing problems and issues of the present and a concern for scientifically shaping the future in cooperation with all agencies involved.

Regions and Social Action

Education as a process thus furnishes an instrument to weave science and human need into new patterns of social action. The resources of a region

form the frame for these new patterns of social action. Science reveals the alternative uses to which resources may be put in the process of achieving the capacity of men and their environment.

The supreme goal is to find ways of resource use which release the full power of man's intellectual and physical capacity consistent with nature's laws. Resource-use education within the regional framework suggests one way of achieving the integration of social effort toward that goal.

[1] An abbreviated form of this article was prepared as an address for the 1945 Conference of the American Association of School Administrators. It was published in the 1945 Official Report of the American Association of School Administrators.

[2] David E. Lilienthal, *TVA—Democracy on the March* (New York: Harper and Brothers, 1944, pp. 121-122.

ILLUSTRATIONS BY H. DON WHITE